

REMARKS

Claims 1-14, 21-75, and 77-81 are currently pending in the application, with claims 1-14, 77, and 78 under consideration (claims 21-75 and 79-81 having been withdrawn by the Examiner as drawn to non-elected subject matter). By the present communication, claims 1, 80, and 81 are amended. None of the subject amendments introduce new matter as all are supported by the specification at, for example, paragraphs [0015] and [0055], and the as-filed claims. In view of these amendments, claim 14 is canceled herein without prejudice or disclaimer. Upon entry of the present amendment, claims 1-13, 77, and 78 will remain pending and at issue.

Election/Restrictions

The Examiner alleges that claims 79-81 (Group II), which were newly added in the Amendment filed September 3, 2008, are directed to an invention that is independent or distinct from the elected invention (i.e., Group I). The Examiner has therefore withdrawn claims 79-81 from consideration as directed to a non-elected invention.

Applicants submit that claims 80 and 81, as amended herein, read on the elected invention (i.e., Group I). Accordingly, Applicants request rejoinder of claims 80 and 81, and that claims 80 and 81 be considered in conjunction with claims 1-13, 77, and 78.

Rejection Under 35 U.S.C. §112, First Paragraph (Enablement)

Claims 1-14, 19, 20 and 76-78 are rejected under 35 U.S.C. §112, first paragraph, as allegedly failing to comply with the enablement requirement. As a preliminary matter, Applicants note that claim 14 is canceled herein and claims 19 and 20 were canceled previously. Accordingly, the rejection as applied to claims 14, 19, and 20 has been rendered moot. Applicants traverse the rejection as applied to the pending claims.

The Office Action alleges that the invention as claimed consists of two separate assay steps with no correlation between the two measurements. In particular, the Action alleges that if intracellular manganese concentration is observed to decrease, one would not expect to observe a concurrent decrease in reverse transcriptase activity, and concludes that the claimed method was

therefore not described in the specification in such a way as to enable the skilled artisan to use the invention. To the contrary, Applicants submit that the specification provides more than adequate guidance to practice the full scope of the invention as defined by the claims as presently amended.

The present invention is based on the discovery that the concentration of certain divalent cations affect the activity of reverse transcriptase (see e.g., paragraph [0036]). In particular, Example 1 describes mutants of *pmr1p* (a calcium ion and manganese ion transporting protein), which are transposition deficient. Data are provided that indicate that “the transposition defect in *pmr1Δ* mutants is due to accumulation of cytoplasmic Mn^{2+} and subsequent inhibition of reverse transcription of Ty1 RNA into cDNA” (specification at paragraph [0097]).

Accordingly, the present invention as described by amended claim 1, is directed to a method of identifying an agent that inhibits reverse transcriptase by contacting a cell having a divalent cation transporting protein with a test agent and detecting a change in the concentration of intracellular manganese ions after contact with the test agent compared to the intracellular concentration in the absence of test agent. Reverse transcriptase activity is measured in the cell, wherein an increase in the intracellular concentration of manganese and a decrease in activity of reverse transcriptase in the presence of test agent is indicative of an agent that inhibits reverse transcriptase.

Thus, contrary to the allegation as set forth in the Action, claim 1 provides the correlation that an increase in the concentration of intracellular manganese ions in the cell after contact with the test agent, and a decrease in activity of reverse transcriptase is indicative of a test agent that inhibits reverse transcriptase. Such a correlation is consistent with the Example provided in the application in which elevated intracellular manganese was associated with inhibition of reverse transcriptase activity. Thus, it is respectfully submitted that the skilled artisan could readily practice the invention based on the teachings of the specification.

Accordingly, reconsideration and withdrawal of this rejection are respectfully requested.

In re Application of:
Boeke and Bolton
Application No.: 10/507,252
Filed: January 28, 2005
Page 14

PATENT
Atty Docket No.: JHU1870-1

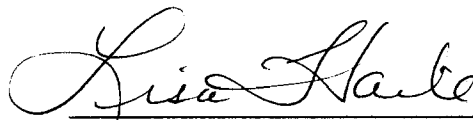
Conclusion

Applicants submit that pending claims 1-13, 77, 78, and rejoined claims 80 and 81 are in condition for allowance. The Examiner is invited to contact Applicants' undersigned representative if there are any questions relating to this submission.

No fee is deemed necessary with the filing of this paper. However, the Commissioner is hereby authorized to charge any fees required by this submission, or credit any overpayments, to Deposit Account No. 07-1896 referencing the above-identified docket number.

Respectfully submitted,

Date: March 3, 2009



Lisa A. Haile, J.D., Ph.D.
Registration No. 38,347
Telephone: (858) 677-1456
Facsimile: (858) 677-1465

DLA Piper LLP (US)
4365 Executive Drive, Suite 1100
San Diego, CA 92121-2133
USPTO Customer Number 28213